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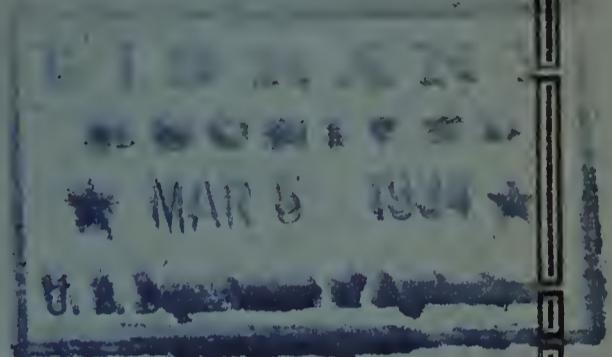
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63,37

# GLAD GUIDE

1934



Glads and How to Grow  
and Enjoy Them

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NINTH ANNUAL CATALOG

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The Foss Heaton Glad Gardens  
Creston, Iowa



# A NEW DEAL

## For the Commercial Gladiolus Grower

### "MRS. E. J. HEATON"



During the past 17 years I have made hundreds of experimental crosses, and raised to the blooming stage thousands of seedlings, and discarded as many as 20 bushels in one season, no two alike. During all these years my list of points for the ideal Glad, on the last page of this catalog, has been gradually extended, as I have noted faults to be avoided, and desirable traits to be sought for. It is doubly difficult to find a Glad that is free of the faults and has all the ideal qualities. But such was my good luck when "Mrs. E. J. Heaton" was discovered among my seedlings in 1929. This list of 21 points of the ideal Glad is the correct description of this new seedling.

Splendid keeper, tall spike, many open, prolific, these are the points in which this Glad is supreme. And the color is the clearest and purest salmon pink in Glads. It is a living, vivid, golden salmon. Without fear of contradiction I am making the claim that it surpasses all other salmon pinks both in beauty and performance.

It is a cross of "Mr. W. H. Phipps" on "Jane Addams". According to the Ridgway charts the color is a deep Strawberry Pink, with a Pinard Yellow throat blotch. The rich golden yellow back of the dazzling salmon, intensified by their absolute purity, is an unforgettable combination of colors. It possesses a solidness of color, which is very rare in Glads, but common in certain other florist cut flowers, such as the carnation and the rose. When a spike is held with its back to the sunlight, the affect is indescribable.

There are no other colors or markings to detract. The blooms never burn nor wilt in the hot sun, and we have had it hot the past few years here in Southern Iowa. The blooms of cut spikes hold up twice as long as the usual Glad indoors. This latter fact has been commented upon as remarkable by those who have seen it at the shows. Every bud clear to the tip of the long flower head will open a large bright flower. This trait it inherits to a large extent from "Jane Addams", as also its great size and fine form. The size is uniformly larger than "Mr. W. H. Phipps", and the form is the wide-open, expanded, but firmly held form of "Jane Addams". It gets its long sturdy spike from "Mr. W. H. Phipps", and its habit of having many open blooms at one time. But it has eliminated the poor placement of Mr. "W. H. Phipps", also the irregularity and uncertainty of this variety. Every bulb this past season sent up a salable spike for any florist. The cut so far has been practically 100 percent, as judged from a cut flower market standpoint.

Its growing habits leave nothing to be desired. This latter point is very important from the commercial grower's standpoint. It is extremely prolific, and the bulblets sprout readily, though they do not bloom. Old bulbs do not flatten out, and the plant stays green and growing until frost. The bulb is solid, high-crowned, and meaty, and very large. The foliage is broad-leaved, blue-green in color, and rather low set on the plant, with the tall spikes easy to cut. As for "feeding pressure", no other Glad in my experience has ever been able "to take it" as this one has. Plants forced in this manner have climaxed their response by averaging over 100 bulblets apiece. It is an early mid-season variety, or about a week earlier than "Dr. F. E. Bennett".

It won two blue ribbons at the A. G. S. show at La Porte, Indiana, last August, in the salmon pink color classes. It was also awarded a Century of Progress Gold Medal at the Chicago World's Fair.

No. 1 to No. 3, \$10.00 each. No. 4, \$7.50 each. No. 5, \$5.00 each. No. 6, \$4.00 each. Bulblets, \$1.00 each. Please do not ask for discounts.

## VARIETY DESCRIPTIONS

The following descriptions of varieties are arranged by color classes. For alphabetical arrangement see price list.

Colors are described in two ways, the one in every day language, and the other according to the Ridgway color charts, which are a series of eleven hundred different named color plates contained in a book called "Color Standards and Nomenclature", by Robert Ridgway, Washington, D. C.

The blooming periods are of necessity only approximations. They vary for different localities. The best way is to compare the periods of the different varieties with those with which you have dates for your own particular locality.

The numbers in parentheses are the rankings in the 1932 Vote on Favorites by the American Gladiolus Society, the tabulations of which were completed in the summer of 1933.

## WHITE

### **ALBATROS**

(Pfitzer). Mid-season. (13th).

Absolutely pure white, no suggestion of any other color. A big, broad-petaled, not too wide-open flower on one of the tallest spikes in Glads. Very heavy foliage and sturdy spike. Moderately prolific. Probably the best all-around white. Well adapted to our climate.

### **CARMEN SYLVA**

(Decorah). Late mid-season. (38th in 1929).

A slender-stemmed, tall white, that is sometimes very good. At other times the flower head is a little short. A lily-like flower that is still useful and popular.

### **HENRY C. GOEHL**

(Fischer). Early mid-season. Ridgway: White, shaded Rose Pink, blotch Pomegranate Purple.

This blotched white holds up well, is tall, keeps well, and is really attractive. Usually pure white, with a very big purple blotch.

### **MAMMOTH WHITE**

(Pfitzer). Mid-season. (17th).

Not far behind Albatros. It is larger, more open at one time, but not quite so tall or prolific. A beautiful cream throat relieves the big pure white blooms. A gorgeous white. It and Albatros are the best in whites.

### **MARIE KUNDERD**

(Kunderd). Early. (28th in 1929).

A charming little white, and among the first of all Glads to bloom. Beautifully ruffled, and is a solid snow white, on a very nice stem, always with a good flower head.

### **MIBLOOM**

(Stevens). Early.

The Glad that is supposed to have a slight odor. A big early white with a red feather, and usually flushed with pink.

## CREAM

### **RUFFLED GOLD**

(Goodrich). Mid-season. Ridgway: Straw Yellow, small feather Corinthian Pink.

This Glad is not as well known as it should be. I regard it as one of the most exquisitely beautiful Glads in existence. Not a yellow, too light for that. But that form is perfect. Many open, fine plant, tall spike. Just a rich cream with a small rose feather.

### **QUEEN MARY**

(Mair). Mid-season. (31st).

When this Glad is good, it is hard to beat. A creamy flesh color that often flushes pink towards the edges of the ruffled petals. A fine spike, and stands up well.

**TWILIGHT**

(Kunderd). Late. Ridgway: Seashell Pink, small feather Spinel Red, tipped Pinard Yellow.

General impression is a rich creamy flesh pink. Nicely ruffled. Heavy spike, several open.

**YELLOW****GOLDEN CHIMES**

(Ellis). Early mid-season. Ridgway: Light Empire Yellow.

A very large yellow, wide-open, fine form, good spike. A big improvement over most yellows.

**GOLDEN DREAM**

(Groff). Late. Ridgway: Empire Yellow. (9th).

This Glad holds its own in the Popularity Ratings through the years, appearing in nearly every list of the world's best Ten. A rich deep pure uniform yellow, many open, on a very tall heavy spike. Will not send up a spike unless it is good, with a long flower head and at least six open. The form is delightful, suggesting the rose.

**GOLDEN FRILLS**

(Kunderd). Early. Ridgway: Empire Yellow, feather Old Rose. (38th in 1930).

For those who like Prims this one will fill the bill. Heavily and delightfully ruffled. Probably the deepest of all the yellows. The first to bloom in our fields. The pink feather accentuates the bright yellow.

**TOBERSUN**

(Austin). Late mid-season. Ridgway: Pinard Yellow, throat deeper. (40th in 1930).

A pleasing soft clear yellow. Several open on a nice stem. A fine commercial in the light yellow class.

**LIGHT PINK****CORYPHEE**

(Pfitzer). Mid-season. Ridgway: A True La France Pink. (23rd).

In this climate there are too many bow ties and figure eights in a bed of Coryphees. This extreme tendency to crook spoils an otherwise very beautiful flower. Plant in July for September bloom. The most beautiful of the light pink colors.

**GIANT NYMPH**

(Coleman). Mid-season. Ridgway: Shrimp Pink, throat Naphthalene Yellow. (15th).

Among the first 15 in every National Symposium. A vigorous healthy plant, with a tall spike that never crooks. A very dependable variety under all kinds of conditions. A pure light pink, slight markings in the throat.

**MRS. FRANK PENDLETON**

(Kunderd). Early mid-season. Ridgway: Hermosa Pink, blotch Ox-blood Red. (50th in 1931).

This Glad has been fine for over a quarter of a Century. Very popular still. The spike is as tall as ever, the flower as large and pretty. A pleasing soft pink with a big red blotch.

**MRS. H. E. BOTHIN**

(Diener). Late. Ridgway: Shrimp Pink, blotch Scarlet.

A very useful Glad on the cut flower market. A thick heavy stem with only two or three open, but they bloom out so well as cut spikes. A soft pink with a contrasting scarlet blotch, and slightly ruffled.

**MRS. P. W. SISSON**

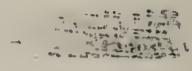
(Coleman). Late mid-season. Ridgway: Shrimp Pink. (16th).

This Glad has kept close to Giant Nymph in the ratings. It is very similar in growth and habits. But the color is much more beautiful. A clear vivid light pink of delightful form.

**RITA BECK**

(Fischer). Late mid-season. Ridgway: Shrimp Pink. (49th in 1931).

Similar to Mrs. P. W. Sisson but much larger. If it were more reliable in sending up the fine spikes it is capable of doing, it would be unbeatable. Some seasons no finer Glad on the farm.

**DARK PINK****CATHERINE COLEMAN**

(Coleman). Late mid-season. Ridgway: Geranium Pink, small feather Pomegranate Purple. (46th).

The Glad with small slender leaves that extend along the spike, making cutting a little difficult. Capable of producing fine blooms. Extremely tall, perfect placement, nice form, and a pleasing geranium pink.

**MRS. LEON DOUGLAS**

(Diener). Late mid-season. Ridgway: Rose Doree. (7th).

A very popular dark pink. It was first in a National Symposium a few years ago. Probably the tallest growing Glad, and very heavy foliage. But the flower head is not always correct, being sometimes short with poor placement. A live refreshing pink. Has some tendency to crook. Very good in spite of its faults.

**MR. W. H. PHIPPS**

(Diener). Late. Ridgway: Light Geranium Pink. (3rd).

The world's best Glad for years now has to be content with third place, Minuet and Marmora advancing to the first and second places. The Phipps habit of not always doing her best has lost her votes. No Glad more gorgeous than this one, and with good culture I usually get these fine spikes. It can stand high culture, and should have it, if you expect these wonderful spikes. A fine pink of great size, and many open blooms.

**WINGED VICTORY**

(Briggs). Mid-season. Ridgway: Geranium Pink, flaked Scarlet.

Probably the biggest florets in Glads. A rich pink, several open on a good spike, and nicely placed, but the petals are of the flaring, or winged type. The giant among Glads.

**SALMON PINK****BETTY NUTHALL**

(Salbach). Late. Ridgway: Bittersweet Pink, throat Pinard Yellow. (4th).

The most outstanding introduction of recent years. The world wants a golden pink, or an orange pink, and this one comes near it. Very heavy foliage that is low set on the plant, making the spikes easy to cut. The spikes are very tall and always straight, with many open blooms, that keep well and open up well after the spikes are cut. A very dependable and beautiful Glad.

**GLORIANA**

(Betcher). Mid-season. Ridgway: Salmon Color. (21st).

A very popular Prim on account of its color, which is a pure salmon. The golden throat is beautiful.

**NETHERLAND PRINCE**

(Stevens). Late mid-season. Ridgway: Light Strawberry Pink.

A very tall growing salmon pink, with large blooms. Fine growing habits.

**PICARDY**

(Palmer). Early mid-season. Ridgway: Shrimp Pink. (5th).

This Prim has risen extremely rapidly in the ratings. One of the most beautiful colors in Glads. Many open on a tall graceful spike. The form is delightful.

**SHEILA**

(Coleman). Early. Ridgway: Strawberry Pink, throat Baryta Yellow.

Here is a Glad that will not send up a spike unless it is a good one. From an early planting of assorted sizes one may have a constant supply of blooms from July until frost. Always very tall, pure salmon pink color, and good keeper. Not many open, but large and showy. Very popular color.

## ORANGE

### **LA PALOMA**

(Dusinberre). Earl mid-season. Ridgway: Capucine Yellow to Mikado Orange. (42nd in 1931).

Almost a true orange. A tall Prim of good growing habits, and very floriferous.

### **ORANGE WONDER**

(Kemp). Late. Ridgway: Deep Grenadine. (48th).

Here is a real orange Glad without any suggestion of Prim blood. It is gradually coming to the front as one of the really fine Glads. Wonderful under artificial light, and it opens up splendidly indoors. Very large bloom, and heavy foliage and plant. The spike is not so stretchy as it might be.

## SCARLET

### **AFLAME**

(Hornberger). Mid-season. Ridgway: Rose Doree, shaded Scarlet. (12th).

Though a Prim, this Glad is a real contribution to the Glad world. Immense spikes and blooms. The color effect is a bright scarlet, or flaming red.

### **DR. F. E. BENNETT**

(Diener). Earl mid-season. Ridgway: Scarlet. (6th).

The test of a really great Glad is its ability to hold its place in popular esteem through the years. Dr. Bennett has about the fewest faults of any Glad I know of, and is retaining its many virtues unimpaired as time passes. This Glad and a few others, like Betty Nuthall, seem specially designed for cutting, with their bunched foliage, tall straight regular stems, and many fine buds showing color. A vivid scarlet. It is what we mean when we say dependable.

### **PFITZER'S TRIUMPH**

(Pfitzer). Late mid-season. Ridgway: Scarlet, blotch deeper. (8th).

Sensational when grown right. Given cool days and lots of moisture, or planted late, it is unbeatable. The hot sun crooks and burns it, and drouth makes the stems short. Big round wide-open blooms of a solid scarlet color. Imagine a Bennett with a Pfitzer's Triumph bloom.

### **PRIDE OF PORTLAND**

(Ellis). Late mid-season. Ridgway: Light Scarlet Red, white blotch.

A steady winner at the shows last summer. This Glad is finding a high place as it becomes adapted to our climate. A vivid scarlet pink, with a pure white blotch, on a very tall straight spike. The flower is very large and exceedingly bright.

## RED

### **COMMANDER KOEHL**

(Pfitzer). Late mid-season. Ridgway: Between Carmine and Ox-blood Red. (14th).

The winner in the red class at all the shows. This fine Glad is climbing high in the rating tables. A deep glistening glowing red of great size. Many open on a fine spike.

### **RED GLORY**

(Piper). Mid-season. Ridgway: Carmine.

A sport of Purple Glory, and the only sport I know of that is an improvement over its parent stock. It has all the qualities of the famous Purple Glory, but the color is a pure glistening red, and the plant is stronger and more easily grown.

### **RED PHIPPS**

(Briggs). Mid-season. Ridgway: Spectrum Red.

A free flowering real red that is going to go places in the next few years. A red that is red. Many open on a fine tall stem.

## DARK RED

### **ARABIA**

(Hinkle). Early mid-season. Ridgway: Bordeaux, shaded black.

The black Glad. Better than Marocco in one respect in that the stems are always straight. Valuable because the blooms are regular in form, and dependable. Does not burn in the hottest sun. Easily grown. A heavy stretchy spike. Purplish black red.

**MAROCCO**

(Pfitzer). Early mid-season. Ridgway: Deep Burnt Lake, flaked black. (43rd in 1931).

This glistening black red Glad has twice as many open as Arabia, of the more wide-open form, but the stems are inclined to crook slightly. Good size, tall stem, fine.

**MOORISH KING**

(Pfitzer). Late. Ridgway: Very deep Ox-blood Red. (39th).

Very much larger and finer than Arabia or Marocco, but not so dark. The petals are narrow and pointed, and the flower large and wide-open. Color is scarlet-black rather than purple-black. It will probably soon disappear from the earth, as it is a very slow propagator.

**PURPLE GLORY**

(Kunderd). Mid-season. Ridgway: Amaranth Purple. (18th).

A sensational Glad for years. Its thick leathery petals, glossy texture, and fine ruffling are unsurpassed. A purplish dark red.

**ROSE****CRINKLES**

(Kunderd). Mid-season. Ridgway: Tyrian Rose.

A unique flower that should be more widely grown. Not large, but the many extremely ruffled blooms suggest beautiful carnations along the sturdy stem. A fine spike that is easily cut, with many buds showing color. Exceedingly deep vivid rose color. A Glad that stays good.

**DR. NELSON SHOOK**

(Kunderd). Late. Ridgway: Deep Rose Red. (34th).

A very strong heavy spike that is a little hard to cut on account of the extremely heavy foliage. A vivid deep rose red, many open. Very popular.

**PRIDE OF WANAKAH**

(Criswell). Mid-season. Ridgway: Tyrian Rose, blotch Pomegranate Purple. (45th).

Extremely tall spike, slender and graceful, never crooking. A bright, gleaming, silky color. Two or three open, but very large. Color is a bright rose red.

**RED LORY**

(Errey). Mid-season. Ridgway: Outer half of petals Spectrum Red; inner half Rhodamine Purple. (40th).

A tall spike with a large number open. The blooms resemble Emile Aubrun in form. The color seems to be purple over red. A unique Glad from Australia.

**SULTAN**

(Crow). Mid-season. Ridgway: Pomegranate Purple.

A rich velvety, heavily ruffled wine-red. Fine spike. One of the best of the newer Glads.

**ROSE PINK****KEN**

(Goodrich). Late mid-season. Ridgway: Deep Rose Pink to true Rose Color.

This Glad is well liked by those who have seen it. It is the only true rose color I know of, though flaked heavily. Very tall stem and large flower.

**SALBACH'S ORCHID**

(Salbach). Early mid-season. Ridgway: Rose Pink. (50th).

A real rose pink by the originator of Betty Nuthall. I was pleasantly surprised this year to find a good crop of bulblets. Heretofore the increase has been disappointing. A splendid flower, many open on a superb spike, suggesting Minuet in many ways. It will have a great future if the increase stays good.

**SWEET ROSE**

(Kunderd). Mid-season. Ridgway: Eosine Pink, blotch Pomegranate Purple.

Fine stem with well placed wide-open heavy-textured blooms. A pretty begonia pink. The florists like it.

## LAVENDER

### BERTY SNOW

(Mair). Mid-season. Ridgway: Pale Rosolane Purple, with light mid-rib. (25th).

One of the good ones. This fine Glad from Scotland used to flake badly, but has been coming clear the last two or three years. Almost as good as Minuet here. Better in one respect because it has more open. Stems always straight and tall, blooms large and well placed. The color is a pinkish lavender, mellow and clear, with white throat.

### CAPT. BOYNTON

(Boynton). Early. Ridgway: Mallow Pink, feather Aster Purple. (43rd in 1930).

A very popular Glad on account of its color, which is a soft lavender with contrasting darker feather. Extremely tall graceful spikes. Only a few open, but large and full.

### DR. MOODY

(Kinyon). Mid-season. Ridgway: Phlox Pink. (26th).

This Glad did not change position in the rankings. Many open, but somewhat crowded on the spike, and not quite so large and wide-open as Minuet. A blue-toned lavender. Heavy plant.

### JANE ADDAMS

(Decorah). Late mid-season. Ridgway: Rosolane Pink, blotch Naphthalene Yellow. (28th).

It takes high culture with plenty of moisture to get the stems tall enough. But that big Amaryllis-like wide-open, flat, perfectly shaped flower is not matched anywhere else. Only two or three open, but their size and clear beauty make up for it. It comes clear now regularly. The feature of this Glad is its incomparable ability to bloom out when cut and taken indoors. Its real beauty appears after a day or so indoors. The bulbs divide, sending up spikes all through the season.

### MINUET

(Coleman). Late mid-season. Ridgway: Mallow Pink. (1st).

Now the world's finest Glad, being in first place in the National Vote. This Glad has about everything a Glad should have, except possibly there are not quite enough open at one time. No sign of lessening of its qualities as the years pass. Its mallow pink color is a very popular color.

### MRS. F. C. PETERS

(Fischer). Late. Ridgway: Pale Rosolane Purple, blotch Amaranth Purple. (33rd).

Another Glad that did not change positions, being 33rd last year. It is an old variety, but stays as good as it ever was. It never varies, sending up perfect blooms in all kinds of weather and in all seasons. It is what we mean when we say dependable. Very tall graceful spike, with several fine flowers of perfect form and placement. Color is a beautiful rose-lilac with dark blotch.

### ROYAL LAVENDER

(Schleider). Late mid-season. Ridgway: Mallow Purple.

The largest of the lavenders except Jane Addams. The spike is not so tall as the others. The color is a deep lavender, bright and clear.

## PURPLE

### CHAS. DICKENS

(Pfizer). Late mid-season. Ridgway: Aster Purple, blotch Amaranth Purple. (37th).

Probably the best in purples. Exceedingly tall graceful spike, with a fine flower head. Perfectly placed, brilliant, reddish purple blooms of fine form.

### PAUL PFITZER

(Pfizer). Early mid-season. Ridgway: Amaranth Purple. (36th).

A bright gorgeous purple, clear, clean and dazzling. The blooms are of fine form on a fine spike. Not far behind Chas. Dickens. The color is more royal.

**PURPLE QUEEN**

(Kunderd). Early mid-season. Ridgway: Aster Purple.

Similar in color to Chas. Dickens, but more subdued. More open at one time, but not so tall stem. Very good keeper as a cut flower.

**RAMESSES**

(Stevens). Mid-season. Ridgway: Rosolane Purple.

A giant in flower. A ruffled deep reddish purple. A very tall but somewhat loosely built spike. Very unusual Glad.

**BLUE****AVE MARIA**

(Pfitzer). Early mid-season. Ridgway: Light Lobelia Violet, feather Rosolane Purple. (22nd).

An easy growing, very prolific blue-violet. Considered one of the very best of the lighter blues. Fine in every way. The blotch does not detract.

**GERALDINE FARRAR**

(Diener). Late mid-season. Ridgway: Lavender, feather Livid Purple. (44th in 1931).

In a rather trying season this Glad stood the drouth fully as well as any Glad on the farm. The spikes were uniformly of the highest quality, with fine flower heads and fine blooms. It has undoubtedly become used to our climate and soil. The only true lavender color in Glads. One example of a Glad's improving, rather than going back, through the years.

**GERTRUDE PFITZER**

(Pfitzer). Mid-season. Ridgway: Pale Lobelia Violet, feather Hortense Violet.

A light blue-violet that never fades. Tall graceful spikes, large blooms of fine form. Very strong grower, and dependable.

**MRS. VAN KONYNENBURG**

(Pfitzer) Mid-season. Ridgway: Deep Lavender, feather Rosolane Purple. (29th).

Regarded as the nearest to blue in Glads. The spikes are very tall, and should be staked or planted deep. Florets sometimes slightly irregular in placement, but are very large and wide-open. A very good blue.

**PELEGRIINA**

(Pfitzer). Early mid-season. Ridgway: Bradley's Violet.

Looks like the best of the dark blue-violets. Many open, with most of the unopened buds showing color. Fine spike, well placed large blooms. Color a very dark blue violet, rich and glistening.

**VEILCHENBLAU**

(Pfitzer). Mid-season. Ridgway: Deep Hyssop Violet, feather Amaranth Purple. (19th).

A rich blue Glad. A strong, vigorous grower. The dark blue buds and fine Iris-blue open flowers are beautiful. One of the best of all Glads for years. Bulblets are hard to sprout.

**SMOKY****EMILE AUBRUN**

(Lemoine). Late. Ridgway: Begonia Rose, buds Spectrum Red, blotch Pomegranate Purple. (11th).

This Glad is rising in the Popularity Vote. A well grown Aubrun is gorgeous. Many large wide-open blooms of the winged type. The color is a deep begonia rose, or rosy red, with a sort of a slaty overcast, and a red blotch.

**JOHN T. PIRIE**

(Kunderd). Mid-season. Ridgway: Neutral Red, blotch Carmine, bordered Barium Yellow.

A smoky red that is very popular. Extremely tall. A sort of mahogany brown, lighted up by a diamond-shaped red blotch bordered cream.

## **ORDER SHEET**

# The Foss Heaton Glad Gardens, Creston, Iowa

**Please forward to** **Amount inclosed, \$.....**

**Amount inclosed, \$.....**

Name ..... R. F. D. No. ....

R. F. D. No. ....

**Street** ..... P. O. Box.....

**Post Office** ..... **State** .....

**County** ..... **Express Office** .....

Date of Order ..... 193.....

Please write name and address plainly. If we are sold out of an item, shall  
we substitute nearest sizes? .....

(Orders may be continued on the back of this sheet)



**MARMORA**

(Errey). Mid-season. Ridgway: Light Vinaceous Lilac, blotch deep Purplish Vinaceous in throat to Roccellin Purple on tip. (2nd).

Very popular Glad. Folks like lots of big blooms open at one time. Great wide-open flowers of the flaring, or winged type. A grayish lavender with a petunia blotch. A sure winner in its class.

**MOTHER MACHREE**

(Stevens). Mid-season. Ridgway: Light Grayish Vinaceous, flaked Salmon Buff. (10th).

A very popular smoky. The color is peculiar, a sort of mouse color streaked with apple yelly. Some describe it as a sort of pinkish gray flaked with salmon buff. Very strong grower and fine spike.

**ROSE ASH**

(Diener). Late. Ridgway: Roccellin Purple, blotch Straw Yellow. (45th in 1930).

The original smoky that made smokies popular. Has always been in big demand. The color is hard to describe, usually called ashes of roses. Very sturdy spike, with blooms irregularly placed.

## 1934 PRICE LIST

These prices cancel all others mailed to you. All prices PREPAID anywhere. Two at one-fifth the 10 price. Twenty at one-fifth the 100 price. No item less than five cents. If cash accompanies order of \$10.00 or more, deduct 10 percent. This discount does not apply on the variety "Mrs. E. J. Heaton". For later delivery, one-fifth cash will hold your order. Balance before shipment, or C. O. D. Large sizes, 1 1/4 inches up. Medium sizes, 3/4 inch to 1 1/4 inches. Small sizes, under 3/4 inch. For prices of No. 1 size add one-fifth to the price of LARGE size. For prices of No. 3 size add one-fifth to the price of MEDIUM size. For prices of No. 5 size add one-fifth to the price of SMALL size.

Dependable bulbs of dependable varieties are offered herewith. My bulbs are guaranteed free of thrips and disease, and must please you or no sale. Every precaution is taken to keep my stock true to name, and should mistakes occur I shall be glad to make them right. Let me know if you are not satisfied in every particular.

These prices are subject to such changes as may be required by the new Nursery Code when it is established.

Addressing your letters, checks, etc., to me personally will bring to your order, or communication, a sort of personal contact, which in the business world is an assurance of continuing satisfaction. I am trying to build my business on the solid foundation of fair dealing, and I shall do everything I can to merit your confidence.

Sincerely yours,  
FOSS HEATON

Member American Gladiolus Society Board of Governors, also member of the Executive Committee. Member Iowa Gladiolus Society, New England Gladiolus Society, British Gladiolus Society, Canadian Gladiolus Society.

Variety	Per	Large	Medium	Small	Per	Bulblets
<b>Aflame</b> ----- (scarlet) -----	10	\$ .40	\$ .20	\$ .10	100	\$ .10
	100	2.80	1.40	.70		
<b>Albatros</b> ----- (white) -----	1	.15	.07		100	.30
	10	1.05	.55			
<b>Arabia</b> ----- (dark red) -----	10	.30	.15	.10	100	.10
	100	2.10	1.05	.70		
<b>Ave Maria (blue)</b> -----	10	.50	.25		100	.25
<b>Berty Snow</b> ----- (lavender) -----	10	.40	.20	.10	100	.10
	100	2.80	1.40	.70		

## THE FOSS HEATON GLAD GARDENS, CRESTON, IOWA

Variety	Per	Large	Medium	Small	Per	Bulblets
<b>Betty Nuthall</b> (salmon pink)	10 100	.30 2.10	.15 1.05	.10 .70	100 1000	.10 .50
<b>Capt. Boynton</b> (lavender)	10 100	.30 2.10	.15 1.05	.10 .70	100	.10
<b>Carmen Sylva</b> (white)	10 100	.30 2.10	.15 1.05	.05 .45	100	.10
<b>Catherine Coleman</b> (dark pink)	10 100	.30 2.10	.15 1.05	.10 .70	100	.10
<b>Chas. Dickens</b> (purple)	10 100		.15 1.05	.10 .70	100	.10
<b>Commander Koehl</b> (red)	1 10	.15 1.05	.07 .55		100	.50
<b>Coryphee</b> (light pink)	10	.75	.40	.20		
<b>Crinkles</b> (rose)	10 100	.30 2.10	.15 1.05	.10 .70	100	.10
<b>Dr. F. E. Bennett</b> (scarlet)	10 100	.30 2.10	.15 1.05	.05 .45	100 1000	.10 .70
<b>Dr. Moody</b> (lavender)	10 100	.30 2.10	.15 1.05	.10 .70	100 1000	.10 .50
<b>Dr. Nelson Shook</b> (rose)	10 100	.30 2.10	.15 1.05	.10 .70		
<b>Emile Aubrun</b> (smoky)	10 100	.30 2.10	.15 1.05	.05 .45	100 1000	.10 .50
<b>Geraldine Farrar</b> (blue)	10 100	.50 3.50	.25 1.75	.15 1.00		
<b>Gertrude Pfitzer</b> (blue)	1 10	.15 1.05	.10 .70	.05 .35	100	.40
<b>Giant Nymph</b> (light pink)	10 100	.30 2.10	.15 1.05	.05 .45	100 1000	.10 .50
<b>Gloriana</b> (salmon pink)	10	.50	.25	.10	100	.10
<b>Golden Chimes</b> (yellow)	1	1.50	1.00	.60	1	.15
<b>Golden Dream</b> (yellow)	10 100	.30 2.10	.15 1.05	.05 .45	100 1000	.10 .50
<b>Golden Frills</b> (yellow)	10 100		.15 1.05	.05 .45	100 1000	.10 .50
<b>Henry C. Goehl</b> (white)	10 100	.30 2.10	.15 1.05	.10 .70	100	.10
<b>Jane Addams</b> (lavender)	10 100	.40 2.80	.20 1.40	.10 .70	100	.20
<b>John T. Pirie</b> (smoky)	10 100	.30 2.10	.15 1.05	.05 .45	100 1000	.10 .50
<b>Ken</b> (rose pink)	10 100	.75 5.25		.20 1.50	100	.40
<b>La Paloma</b> (orange)	10 100	.75 5.25	.40 2.80	.20 1.50	100	.30
<b>Mammoth White</b> (white)	1 10	.15 1.05	.10 .70	.05 .40	100	1.00
<b>Marie Kunderd</b> (white)	10 100	.30 2.10	.15 1.05	.10 .70	100	.10
<b>Marmorata</b> (smoky)	10 100	.40 2.80	.20 1.40	.10 .70	100 1000	.10 .80
<b>Marocco</b> (dark red)	10 100	.40 2.80	.20 1.40	.10 .70	100 1000	.20 1.00
<b>Mibloom</b> (white)	1	.15	.10		100	.30
<b>Minuet</b> (lavender)	10 100	.40 2.80	.25 2.00	.15 1.00	100	.10
<b>Moorish King</b> (dark red)	1	1.00	.50			

Variety	Per	Large	Medium	Small	Per	Bulblets
<b>Mother Machree</b>	1	.15	.10	.05	100	.25
(smoky)	10	1.05	.60	.35		
<b>Mrs. F. C. Peters</b>	10	.30	.15	.05	100	.10
(lavender)	100	2.10	1.05	.45	1000	.50
<b>Mrs. Frank Pendleton</b>	10	.30	.15	.05	100	.10
(light pink)	100	2.10	1.05	.45	1000	.50
<b>Mrs. H. E. Bothin</b>	10	.30	.15	.05	100	.10
(light pink)	100	2.10	1.05	.45		
<b>Mrs. Leon Douglas</b>	10		.15	.05	100	.10
(dark pink)	100		1.05	.45	1000	.50
<b>Mrs. P. W. Sisson</b> (light pink)	10	.60	.30			
<b>Mrs. Van Konynenburg</b> (blue)	10	.50	.25		100	.20
<b>Mr. W. H. Phipps</b>	10	.30	.15	.05	100	.10
(dark pink)	100	2.10	1.05	.45	1000	.50
<b>Netherland Prince</b> (salmon pink)	1	.40	.30		10	.25
<b>Orange Wonder</b>	10	.30	.15	.10	100	.20
(orange)	100	2.10	1.05	.70	1000	1.00
<b>Paul Pfitzer</b>	10	.50	.25		100	.25
(purple)	100	3.50	1.75			
<b>Pelegrina</b> (blue)	1	.50			1	.10
<b>Pfitzer's Triumph</b>	10	.30	.15		100	.10
(scarlet)	100	2.10	1.05			
<b>Picardy</b> (salmon pink)	1	.30			10	.50
<b>Pride of Portland</b>	1	.15	.10		100	.30
(scarlet)	10	1.20	.80			
<b>Pride of Wanakah</b>	10	.30	.15	.05	100	.10
(rose)	100	2.10	1.05	.45	1000	.50
<b>Purple Glory</b>	10	.40	.20		100	.20
(dark red)	100	2.20	1.40			
<b>Purple Queen</b>	10	.30	.15	.10	100	.10
(purple)	100	2.10	1.05	.70		
<b>Queen Mary</b> (cream)	1		.20		10	.30
<b>Ramesses</b> (purple)	1	.50	.25		10	.50
<b>Red Glory</b>	10	.40			100	.30
(red)	100	2.80				
<b>Red Phipps</b> (red)				(stock withheld)		
<b>Red Lory</b> (rose)	1	.25	.20		10	.50
<b>Rita Beck</b> (light pink)	10	.75	.40		100	.20
<b>Rose Ash</b>	10	.30	.15	.05	100	.10
(smoky)	100	2.10	1.05	.45		
<b>Royal Lavender</b>	10	.40	.20	.10	100	.10
(lavender)	100	2.80	1.40	.70		
<b>Ruffled Gold</b>	10	.40	.20	.10	100	.20
(cream)	100	2.80	1.40	.70	1000	.89
<b>Salbach's Orchid</b> (rose pink)	1	.40	.20		10	.25
<b>Sheila</b>	10	.30	.15	.05	100	.10
(salmon pink)	100	2.10	1.05	.45	1000	.50
<b>Sweet Rose</b>	10	.30	.15	.10	100	.10
(rose pink)	100	2.10	1.05	.70		
<b>Sultan</b> (rose)	1	.80			1	.10
<b>Tobersun</b> (yellow)	10	.60	.30	.20	100	.20
<b>Twilight</b>	10		.15	.10	100	.10
(cream)	100		1.05	.70		
<b>Veilchenblau</b> (blue)	10	.50	.25		100	.20
<b>Winged Victory</b>	1	.15	.10		100	.25
(dark pink)	10	1.05	.70			

## SUPERIOR MIXTURE

When I discard a variety, it is not thrown into a mixture. Neither do I grow mixtures. This SUPERIOR MIXTURE will be made up of named varieties, listed elsewhere in this catalog, and will be mixed at the time I ship the bulbs to you. \_\_\_\_\_ of the 16 color classes will contribute a share of bulbs. If you will state some of your favorite colors, will make your special mixture strong on those particular colors. Large sizes, 1 $\frac{1}{4}$  inch and over, \$1.85 per 100 prepaid. Medium sizes,  $\frac{3}{4}$  inch to 1 $\frac{1}{4}$  inch, \$1.10 per 100 prepaid. All named varieties but not labeled.

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## WHOLESALE PRICES

F. O. B. Creston, Iowa. Priced per 1000, 200 at 1000 rate.

Variety	No. 1	No. 2	No. 3	No. 4
Betty Nuthall	\$15.00	\$12.00	\$10.00	
Capt. Boynton	10.00	8.00		
Carmen Sylva		8.00	6.00	4.00
Catherine Coleman	12.00	10.00		
Crinkles	12.00	10.00		
Dr. F. E. Bennett	12.00	10.00	7.00	
Dr. Moody	15.00	12.00	10.00	7.00
Emile Aubrun	12.00	9.00	7.00	
Giant Nymph		8.00	6.00	4.00
Golden Dream		8.00	6.00	4.00
Jane Addams	15.00	12.00	10.00	8.00
John T. Pirie		10.00	8.00	6.00
Marmorata	15.00	12.00	10.00	8.00
Mrs. F. C. Peters	12.00	9.00	7.00	4.00
Mrs. Leon Douglas			4.00	3.00
Mrs. H. E. Bothin	10.00	8.00	6.00	
Mr. W. H. Phipps	11.00	8.00	5.00	
Orange Wonder	15.00	12.00	10.00	8.00
Pride of Wanakah			6.00	4.00
Ruffled Gold	15.00	10.00	8.00	6.00
Sheila		7.00	4.00	
Sweet Rose	10.00	8.00		

STANDARD SIZES USED IN THIS CATALOG. No. 1, 1 $\frac{1}{2}$  inch and over. No. 2, 1 $\frac{1}{4}$  inch to 1 $\frac{1}{2}$  inch. No. 3, 1 inch to 1 $\frac{1}{4}$  inch. No. 4,  $\frac{3}{4}$  inch to 1 inch. No. 5,  $\frac{1}{2}$  inch to  $\frac{3}{4}$  inch. No. 6,  $\frac{1}{2}$  inch and under.

## A. G. S. MEMBERSHIP

If Glads are your hobby, then you will probably want to belong to the American Gladiolus Society. This society issues a monthly magazine devoted exclusively to Glads. A good place to get all the news about Glads, the experiences of others, the reports of the many shows, information on the newer varieties, numerous articles on every phase of Glad growing, Glad showing, and Glad enjoyment, and so forth. Send your dues of \$2.00 to Secretary Roscoe Huff, Spohn Bldg., Goshen, Ind.

## THE WORD "GLAD" NOT TRADE SLANG

Among the uninitiated it is safe to assume that there is not one person in a dozen who is sure of his ground when he has to call this flower by name. A newspaper editor once said it takes a brave man to admire the gladiolus audibly. The average admirer is really afraid of its name, unless he feels it is allowable just to call them "Glads". The A. G. S. has made a bad situation even worse by decreeing one word for both singular and plural, and defying the purists by placing the accent contrary to the Latin form. According to the latter the accent should be on the third syllable from the end, with the plural ending like the Latin. The A. G. S. adopted the more common, or really colloquial, use of the word, having the accent on the second syllable from the end. There are many variations in colloquial usage. One of these sounds like "glad-dahlias". Another has the plural ending in the letter "a".

There is a happy solution to this difficulty. Just call this flower a "Glad". This will not be slang, or trade cant, such as would be the case, for example, in calling

chrysanthemums "mums", or snapdragons "snaps". The latter terms are really cant terms, short names for lazy convenience. The Glad really has no name other than "Glad", and therefore such a name has a proper dignity in itself, such as would not be the case otherwise. Let us all courageously take the situation in hand, regardless of the die-hard purists, and call them "Glads", and nothing else, whether orally or on paper. We are not slaves to etymology or tradition. It is no sin to adopt a name, especially such a happy name as this one. The word "Glad" describes the flower perfectly. Lifting its bright face to the blue of the morning sky, in all the hues of the rainbow, with a poise and dignity, and yet with a graceful airiness, just as though the flower were really a living happy being.

## JUST WHY ARE GLADS SO POPULAR

One big reason is their colors. Pure colors are very rare in Nature. They are what are known as the spectrum colors, with the different hues, together with their tints and shades. By far the more numerous colors in Nature are the dull, or neutral, colors, technically known as broken colors, with infinite variations produced by admixtures in varying proportions of neutral gray, or both black and white. Glads carry a very large proportion of the pure colors in the different hues, probably more so than any other flower. The dull, or broken, colors are not very common in Glads. This explains their brightness. It also explains their power to attract.

Another big reason is their adaptability to various uses. They can be put to about every use for which any flower is ever called on to supply. The single floret is a beauty in itself, as witness its use in the corsage or wreath. The spike is a handy thing, holding the blooms in any required position, whether in vase, basket, or spray. The blooms hold up well under trying conditions. They have the colors for any conceivable color scheme.

The third big reason is that anybody can have them. Ridiculously easy to raise and low in price, it is the poor man's flower. Perfect in their regal beauty, the rich man does not disdain them. They are dependable in most any soil and most any climate. If you are a flower, to be popular you must be fool-proof, and Glads fill the bill.

Probably the biggest reason is their color beauty and charm. This explains their extremely rapid increase in popularity in recent years. Folks are finding them out. This also explains the rapid increase in the population of nuts and bugs.

## THE A. G. S. JUDGING SCALE

At exhibitions of cut blooms judges arrive at their decisions by comparing one entry with another, except with seedlings, or with close decisions to make, in which case the following percentage table should be used:

**FLOWER:** Color, 20 points; substance, 10 points; size, 12 points; form, 5 points; condition, 5 points.

**SPIKE:** Length, 5 points; fluorescence, 15 points; arrangement, 10 points; harmony, 15 points; foliage, 3 points. **TOTAL:** 100 points.

Color must be pleasing, distinct, and clear. Penalize for unattractive and inharmonious colors, also flecking and spotting. Substance is ability to withstand warm temperatures and reasonable handling, and to keep well, and is indicated by the thickness, firmness, or texture of the petals. The size may be up to six inches, or more, for the Grandiflorus types, and as low as three inches for the Prim types. Form should be pleasing according to type, with penalties for faults not inherent in the type. The condition is considered as at time of judging, with penalties for damaged, faded, or wilted florets, and the removal of more than three wilted blooms. Stem should be slightly longer than the length of the flower head. In fluorescence consider the number of buds, number showing color, and number open. Arrangement includes both facing and spacing. Penalizing for irregular placement, also over-crowding, and spaces between blooms. Under harmony consider proper proportions of the flower and stem. Foliage should be healthy.

## THE A. G. S. SYMPOSIUM

Each year for the past several years the American Gladiolus Society has taken a vote of its members on the best varieties. When the annual dues of the members are sent to the Secretary, on the back of the membership application blank space is provided for the names of ten varieties which the member regards as his favorites for the year. Sometime during the summer these votes are counted, and the varieties receiving votes are then ranked according to the number of votes each receives, and the fifty highest are published.

## THE TABLE OF FAVORITES FOR 1932

(The number in parentheses is the ranking for 1931).

1. Minuet (2)	26. Dr. Moody (26)
2. Marmora (3)	27. Jonkheer Van Tets (new)
3. Mr. W. H. Phipps (1)	28. Jane Addams (40)
4. Betty Nuthall (7)	29. Mrs. Van Konynenburg (18)
5. Picardy (34)	30. Our Selection (new)
6. Dr. F. E. Bennett (4)	31. Queen Mary (new)
7. Mrs. Leon Douglas (6)	32. Heavenly Blue (24)
8. Pfitzer's Triumph (5)	33. Mrs. F. C. Peters (33)
9. Golden Dream (8)	34. Dr. Nelson Shook (15)
10. Mother Machree (16)	35. Longfellow (23)
11. Emile Aubrun (12)	36. Paul Pfitzer (21)
12. Aflame (17)	37. Chas. Dickens (29)
13. Albatros (14)	38. Bill Sowden (new)
14. Commander Koehl (28)	39. Moorish King (new)
15. Giant Nymph (13)	40. Red Lory (new)
16. Mrs. P. W. Sisson (10)	41. Margaret Fulton (new)
17. Mammoth White (30)	42. Salbach's Pink (new)
18. Purple Glory (9)	43. Golden Measure (39)
19. Veilchenblau (11)	44. Mrs. F. C. Hornberger (32)
20. Aida (22)	45. Pride of Wanakah (41)
21. Gloriana (20)	46. Catherine Coleman (36)
22. Ave Maria (35)	47. Crimson Glow (38)
23. Coryphe (19)	48. Orange Wonder (48)
24. Joerg's White (31)	49. Pearl of California (27)
25. Berty Snow (37)	50. Salbach's Orchid (new)

## TRENDS IN POPULARITY

From a study of these tables it will be noticed that some varieties are rising in their rankings, which means that they are increasing in popularity, while others are falling in the scale, which means that they are becoming less popular. For example, Mrs. Frank Pendleton was in 11th place in 1928, 18th in 1929, 36th in 1930, 50th in 1931, and out in 1932, while Marmora was in 22nd place in 1928, 8th in 1929, 5th in 1930, 3rd in 1931, and 2nd in 1932. Los Angeles dropped from 14th place in 1928 to oblivion at present, while Picardy, a new one, is now in 5th place.

However, most of these varieties are changing positions much less rapidly. If a variety is holding its place, or slowly rising in the scale, it would seem to be a good investment for the commercial grower. On the other hand, the varieties that are not holding their own in this table are a little doubtful as investments, because they are being pushed out by better kinds. The new ones of the later tables are to be watched with care. Some of these will doubtless go much higher. When it comes to varieties that have just recently been introduced, or that have not been disseminated enough to be generally known, one has to exercise his own judgment as to their future popularity and commercial value.

## THE VALUE OF THESE TABLES

Growing conditions of climate and soil vary greatly. Even more variable, perhaps, are individual tastes, likes and dislikes. These facts make it practically impossible for any one person, however well qualified, or even for a committee of expert judges, to make up a list of the world's best Glads. The best we can do is to take a general vote, which shall be a cross-section of Glad opinion for the whole Glad world. A Glad that ranks high under all these diverse conditions of climate and tastes must be good indeed. These are the Glads that are the most likely to make good with you, both for dependability and for beauty.

## HARMONY IN A SPIKE

Harmony of form is a pleasing relation of the parts. It has a decided influence on the effectiveness of the color in a Glad. It is perhaps even more important than harmony of color. For the color to be effectively presented there must be a harmonious arrangement of the whole spike in every detail. We should expect a double row of florets set snugly to the stem, with five to eight open, all facing one way, with the same length of spike for the unopened buds, and the stem below the blooms somewhat longer than the entire flower head. The flower cluster should be about twice

as long as wide, the florets so spaced that they are neither crowded nor show gaps between them. The spike should be slender and graceful and wiry. The florets should be well opened, but not too flat, and not too rounded, or too angular, and the petals not too pointed or too narrow. The florets can show a fullness without the regularity of a hollyhock, and an openness without the flatness of a pansy.

There are many ways by which the harmony in a spike is spoiled, such as the following: florets single file on the stem, or the single row arrangement; only two or three open at one time; too many open, causing the spike to appear clubby; a spike too thick and heavy for the size of the floret; a flower cluster irregular in outline, or tapering; florets that do not face at right angles to the spike.

According to this principle of harmony too much ruffling would be a fault, also the needle-point that is too pronounced, and winged petals, and cup-shaped and lily-shaped florets, and the hood of the Prim, and decidedly so would be laciniated petals. The latter, by the way, is really a reversion. The above types are distortions, and their excuse for being is their novelty. They may all occur to a limited extent without seriously affecting the harmony of a spike, but to the degree they are found in some varieties they are grotesque violations of the principle of harmony.

## DISTORTED TYPES

In the ruffled type some kinds are crinkled, even folded and fluted. A slight ruffling is attractive, even preferable to absolute plainness. In the needle-point type the tips of the petals are as though twisted between thumb and forefinger. Attractive if not carried too far, in which case the petals are narrowed too much. In the winged type of petals there is a loose, floppy appearance, if the type is too pronounced. In the cup-shaped and lily-shaped florets there is too much tendency to point upwards. In the Prim type the hood conceals beauty. It also attracts too much attention to the form. Form should be an aid in presenting the color beauty, rather than an end in itself. In the laciniated types those serrated edges and notches appear as though caused by some accident at the time the buds were formed down in the plant. Narrowed and notched petals are decidedly lacking in harmony, just as though the normal petals had been pared and trimmed with a dull knife. Under no circumstances should these various types be used for classifications in the show room or as ideals to work towards.

To be sure, these irregular types have their uses, although with the professional florist these uses are very limited indeed. So do other garden flowers have their uses, but in nearly all cases these uses are also limited. Only in a very few kinds of flowers, such as the carnation, rose, snapdragon, and a few others of the florist standbys, can the desired color effectiveness be obtained in the proper form. The standard type of Glad is fast becoming a florist standby for the reason that it has gradually adapted itself by discarding all these distortions of type and by developing those qualities demanded of a florist flower. In addition to solidness of color, the florist wants an economical flower. All the above distortions of type are a waste of effectiveness. The harmonious spike is the most economical spike because it is the most effective. The claim is made that these variations in type are an advance in the direction of artistic and decorative possibilities. The answer to this is that the florist is an artist, and he prefers to do his own arranging. He is the master of his own artistry, and he wants materials that are the most useful and adaptable to his purpose.

## PRIMS PRO AND CON, MOSTLY CON

Color beauty, readily available in generous quantities, is the universal conception of what a Glad is for. Lots of color beauty is what makes them popular. In other words, complete harmony, as outlined above, is the essence of the modern ideal Glad. The Prim departs from these essentials in nearly every particular. The form seems to be the ideal in a Prim. But, as mentioned previously, form is only a means to an end.

Even he who professes to like the Prims is not content to have just one spike of a Prim Glad in the vase on his desk. He places several in that vase. Why? Because one is not showy enough. But a completely harmonious standard spike in that vase is a show in itself. If he is enchanted by the exquisitely dainty and airily graceful poise of that Prim, he is worshiping form rather than the beauty of color which is every flower's crown of loveliness.

This distinction is sensed in the popular mind, as evidenced by the lack of demand for Prims. In a recent Glad show from among the prizes offered there were 36 not awarded in the Prim classes, presumably for lack of entries. The phrase, "but no Prims", qualifies most of the orders for Glads in the flower markets. Prims simply do not sell, and many growers hesitate to stock up on them.

## WHAT THE FLORIST WANTS

The florist is an artist. Flowers are his raw material. The reason he wants clear self colors, —solid colors, —is because he can take these and combine them to get what he wants for any desired effect. If he has to use bi-colored Glads, or blended colors in the same Glad, or Glads that are flecked and speckled, his opportunities are greatly limited.

He wants Glads that handle well. The buds must be set snugly to the stem. The Glad must be able to revive readily after rough handling, and hold up well in shipping. The florist also wants the Glad to be able to bloom out the tips after cutting. They must not droop in hot weather, nor the petal edges roll up or burn. He wants more than just two or three open, and they must be fairly regular in placement. The open flowers should just fill the space, should open wide and not conceal their faces. The form should be plain, or with variations that are very slight. He wants the spike to stay erect and gracefully straight, with no branches or crooks. The commercial grower for the florist trade wants the amateur Glad fan to try out all the numerous new kinds before he makes his investment in any new variety, because he knows that not one in hundreds ever meets his exacting requirements.

As to colors the demand is very similar in all localities. Folks who buy Glads want the bright colors usually, avoiding those that are too weak and delicate, or no color in particular. For the florist the ultimate use of most flowers is for evening affairs, and therefore the color should show up well under artificial light. Pinks, especially the salmon and orange pinks, head the list as being most in demand, followed in order by lavender pinks, rose pinks, reds, yellows, and whites, and last of all the purples, dark reds, and smokies.

Taken in the aggregate, the attitude of the florist is approximately the attitude of all the rest of us in this matter of the ideal Glad varieties. The over-enthusiastic Glad fan may easily be led off on some tangent, such as laciniations, crinkles, needle-points, hoods, stripes, mouse colors, eight-inch florets, miniatures, and so forth. But practical considerations will govern in the long run, whether for the florist's work or for the ordinary home and garden decoration.

## THE GLAD IS A CUT FLOWER

Glads will not do for landscaping. A bed of Glads is always scraggly, because they bloom so unevenly, and the spikes are so tall, and not of the same height, and always a few leaning over. If the spikes are not cut, the wilted blooms are unsightly. Glads do not like to grow in among other plants, such as borders for shrubs, and so forth, because they dislike being crowded by anything. Plant your Glads out in the vegetable garden with the purpose of gathering your crop as you do your vegetables.

Glads are particularly suited for cutting, because they keep right on blooming if they are cut with the first flower open, lasting a week or more, by opening up two or three new buds each morning until the entire supply of buds on the spike is used up. And they do this without much loss in the quality of the individual blooms. The thick heavy spike has a big supply of food, enough to develop every bud into a fine flower. Let your spikes do their blooming indoors where you can enjoy them. Besides, the hot sun and the weather are hard on them outdoors. Most of us are too busy to spend much time admiring them out in the garden. Take them to where you spend your time.—the office, the kitchen, and shop, also the church, hospital, and sick room. Do not confine their use to special occasions only, but enjoy them while doing your daily tasks as far as possible. They are specially suited for this purpose, and you can get a tremendous amount of enjoyment out of even one spike in this way.

## CARE OF CUT SPIKES

In cutting leave at least five leaves to develop the new bulb, if you care to save it. Change the water once a day, because cool water has a freshening effect. The pores in the end of the spike become clogged, so cut off slantwise a thin slice each day, and keep the water clear. Do not cut the spike much longer than the flower head, because a long stem lacks the necessary pulling power to draw up moisture, and the blooms become inferior. Remove the wilted blooms and keep out of warm air currents.

If you will place your spikes in cold water in a cool dark cellar, the wilting of the opened blooms may be retarded. In this way, with the opening of the later buds, spikes may be had with a larger number out at one time, with greater chances of their winning in the show room. Spikes may also be kept for considerable periods of time in refrigerators that will not freeze them.

## SHIPPING GLAD SPIKES

Large quantities of Glad spikes are shipped to the flower markets. The demand for Glads is keen, and is becoming stronger every year. Enormous quantities of Glad blooms are consumed in the florist trade. Hundreds of acres are required to supply these markets alone. The best prices are obtained for early summer, or late fall blooms, and for greenhouse-grown spring blooms, as well as shipped-in Southern grown Glads. The mid-summer glut usually results in lower prices, although during the last few years of drouth irrigated Glads brought a premium.

For shipping the spikes the common banana crate is commonly used. It provides plenty of ventilation and is a good protection for the spike tips. The spikes are cut with the first bud swelled enough to open the following day, although for longer shipping distances they may be cut somewhat "tighter". They are tied together in bunches of twenty-five, with a cord a few inches from the lower ends of the spikes. Each bunch is rolled in a single sheet of a newspaper to protect the buds and tips from contact with the other bunches and the sides of the crate, and as many bunches placed vertically in the crate as will be contained snugly. Before packing the spikes should be placed in water at least a half hour.

Smaller quantities of fully opened blooms are shipped in the ordinary florist boxes. Line the box with tissue paper, and pack the spikes snugly with the blossom ends together and in layers. A box may contain two or three layers if the bottom layers are protected from the weight of the upper layers by plenty of tissue paper, or by cleats. For complete protection from brushing against each other and the sides of the box while in transit, especially for the flower show, each spike may be tied to the bottom of the box by a muslin tape just below the lower flower. In this case it would be best not to have more than one layer of spikes for each box. Always be sure the spikes have had a long cool drink before packing. Also cut small holes in the top or sides of the box for ventilation.

## GLADS DROUTH RESISTANT

The last four years of dry and hot weather conditions have afforded unusual opportunities to note the drouth resistant qualities of Glads. The past season was the worst of the four for this locality. The field crop of course was slowed up somewhat, but the plants kept growing, the foliage green and fresh, seemingly as vigorous and healthy as usual, although there was not quite an inch of rainfall from May 12th until August 1st, with none that would much more than settle the dust. Wells went dry, late planted corn did not even sprout, the oats crop almost a complete failure, and even the tomato, a dry weather standby, almost a complete fizzle. Certainly a pleasure to have a flower with the weather-worry removed.

## SUBSTANCE

Substance refers to the ability of the open flower to resist the effects of the heat, dry air, air currents, rough handling, and so forth. The petals of some varieties are somewhat thin, like Phipps for example, while others are almost as heavy as leather, as in Purple Glory. However, the thickness of the petal has little to do with substance. In these two examples Phipps far surpasses Purple Glory in ability to hold up under adverse conditions. The advantage of a thickness of petal lies in the fact that the floret is better able to mantain its form.

## A TOUGH CLIMATE WEEDS THEM OUT

A rugged climate means heat and lots of it. where the thermometer has its tube well worn at the 100 degree mark, where the air gets dry as well as the ground, and humidity staying down towards the vanishing point, where hot winds from the southwest burn like a blast from an oven, where such conditions are common from June to September. When new varieties arrive in such a climate in scores and hundreds as they do, the mortality rate is very high indeed.

I have seen beautiful blooms in the cool and damp Great Lakes region, and I wondered how such wonderful flowers could have escaped more general attention. But when they were bloomed here in Southern Iowa, they were miserable failures. Some of the signs of distress are smaller and rather pinched-looking blooms, a streaking of the lighter shades, especially the whites, and a shortening of the spike and bunching of the flowers. Quite a few varieties are not affected in any of these ways, and it is worthy of note that such varieties are the ones that stand high in the general votes on favorites, and are making good everywhere.

However, the place of origin does not have anything to do with the qualities of a Glad. Many of the finest and most dependable varieties have come from a gentle climate. The weaker Glads get away from the originator in such a climate because he has no way of determining which ones have the necessary stamina. It takes a rugged climate to weed out the poor ones. Where Prims are in great favor is where they do well, and this is largely confined to those sections where the climate is moist and cool. Their daintiness and delicacy are soon blasted by these hot winds.

### THE STEM OF A GLAD

That handy stem is another big reason why Glads are so popular. It is straight and stout and just about the right length to be convenient. It holds the flower up out of the fruit jar or milk bottle or vase, and keeps it right where you want it to be. There never was so handy a handle for any flower. By this handle you can place your flower in any conceivable position your fancy may dictate, and expect it to remain there for days, because that spike has a good store of food for the expanding flowers, from which they will draw nourishment for a week or more. For basket, vase, bowl, spray, wreath, or corsage, or whatever you like, the Glad bloom can easily be held to its desired place, with a maximum of effectiveness and a minimum of effort.

### INFORMALITIES

The older I get the more I feel the folly and futility of laying down hard and fast rules. General principles are always necessary, but it is going too far when we arbitrarily undertake to outline a thing in all of the exactness of detail. It is not Nature's way. Do we ever find two people of a race exactly alike, or two trees of a species, or even two leaves on a tree, or two petals on a rose? If it were not for this delightful informality of Nature, how monotonous and terrible life would be. Imagine going through a forest and finding every tree exactly alike, or through a city and finding every person exactly alike. That would be infinitely worse than finding every dwelling in that city exactly alike. Even the children in a family are delightfully different.

So in a Glad, far from being subjects for penalties, I think such little informalities as a slight twist in a spike, or a bloom slightly misplaced or off the regular form, or with one or two freckles on its face called flecks, or with one or two (not more) dimples on its cheek called ruffles, should indulgently be regarded as delightfully becoming.

Take a ruler with you when you judge a flower, although the Creator of the universe did not when He made it. Give it 12 points if the bloom measures 6 inches, but if it measures only  $5\frac{1}{2}$  inches, give it only 11 points. Give it 8 points for 20 buds, but one point less if there happens to be one bud less than that, and 3 points less if there are 5 less buds. Penalize that beautiful flower that you did not make by taking a point off for a bloom not looking rigidly straight ahead, and another point off because there is a slight twist in its graceful stem, and another point off because it has a freckle on its lovely face.

### MORE GRACE

Pictures of Glads from Australia show a stiff straight stem with a whole flock of florets precisely placed in a neat double row, with a two-inch tassel of unopened buds at the top. Pictures of Glads from England, also New England, show the exquisitely graceful and delicately poised Prim in all of its dainty glory. Is there a happy medium between these two apparently widely divergent viewpoints as to what a Glad should be? I think there is. The German and many American and Canadian varieties are showing the way. There is without a doubt a strong demand everywhere in all countries for a spike with plenty open at one time, with plenty of size. We can have these things and still have the grace and poise of the Prim. Leave out the glaring faults of the Prim, its smallness, its delicate and starved look, its shamefaced hood. We will then by this means do away with the stiffness of the Australian type. The Prim and the Aussie are merely the carrying to extremes of otherwise very desirable qualities.

### GORGEOUSNESS

The demand for massiveness, that is, plenty of size and plenty open, is unmistakable. The trend is all that way, no matter for what purpose the Glad is to be used. Fullness and effectiveness are wanted whether in the garden or in the show room, in the basket or in the vase and bowl, in the spray and wreath or in the shop window.

One of the big reasons for the increasing popularity of the up-to-date varieties is that gorgeousness may be displayed in a single spike. The variety Mr. W. H. Phipps has plenty of faults, but it usually heads the lists in popular votes, simply because it has a sturdy spike with plenty open of big pretty flowers. Take a basket of twenty or thirty of these spikes, and the effect is marvelous.

Folks like color and lots of it. The ordinary Glad fan knows little about all these minor points of form, placement, and so forth, and cares less. To be sure, these things are all aids to increased effectiveness, but this tecbnique can be left with the expert. The modern Glad spike can put it across when it comes to color beauty, far better than any other flower. It does not have to be a rich purple, or a dazzling red, to be effective. The most delicate hues can be simply gorgeous on these modern spikes.

There is not much danger of overdoing this matter of size, always provided the principles of harmony are preserved throughout the whole spike. An increase in the size of the floret must be accompanied by an increase in substance in order to maintain the proper form and placement. There must also be an increase in the length and the thickness of the stem. A big floppy flower on a short stem is a monstrosity. If harmony prevails gorgeousness increases with size.

### THE CONNOISSEUR

When people become interested in Glads, from the mild condition all through the various stages up to the hopeless one, we call them by various names, such as amateur, novice, fan, bug, nut, fiend, and so forth. These are more or less humorous terms. Why not have a more dignified term? A connoisseur of art is a person who knows art. A connoisseur of Glads would therefore very properly be a person who knows Glads.

The connoisseur of Glads fills a very useful role in recent years. With the hundreds of new seedlings being introduced every year, the buyer of Glads is depending on his services to a very large extent. Someone has to try them all out, compare their qualities, weed out the poor ones, and spot the really fine ones for the rest of us. The connoisseur's collecting instinct should be strong, and his pocket-book well filled. Thanks to his efforts, the worthy varieties come to the front and to their rightful places among the world's best Glads. The connoisseur is a valuable citizen, may his tribe increase.

### HOME GARDENS ON THE INCREASE

Thousands of garden clubs have been organized in recent years. Great seed houses are reporting a greater sales volume of flower seeds and bulbs than of vegetables. The migration to the country from the congested districts of the cities is rapidly increasing, made possible by the automobile and good roads. There is a general increase of leisure time through improved machinery and improved methods. These are all very significant facts of modern life. No wonder there is a rapid growth of flower appreciation.

### GLADS AND THE ROAD-SIDE STAND

During the past few years in every city and town gas filling stations have been springing up like prairie-dog mounds out on the plains. This habit of stopping at the road-side to buy gas for the car has gotten the public road-side conscious, so that numerous other commodities are now being sold at road-side stands. Busy thoroughfares are lined with them. Fruits and vegetables, produce of the farm and truck garden, are the commonest. It seems that such articles are specially desirable and have a special flavor and tang when they are obtained fresh and direct from the producer.

In a season when most flowers are scarce, numerous road-side stands are finding that Glads are specially attractive to passing motorists. Their brightness of color, their great variety of colors, their ease of handling, and their immunity from injury are qualities especially appealing to motorists for carrying away in their cars.

Perhaps a few suggestions would not be amiss. If at all possible, the Glads should be grown in a plot adjacent to the road-side stand. Passing motorists like to see them in bloom in the garden in their natural setting. It is important that there be plenty of parking space in front of the stand, or the motorist is not apt to stop no matter how attractive the flowers may appear. In a lot 50 feet by 100 feet, with rows 2½ feet apart, and bulbs planted 5 to the foot, one may plant

10,000 bulbs, there being 20 rows 100 feet long, or 2,000 feet of row. This will supply from 600 to 800 dozen blooms, or more, as some bulbs send up more than one spike. The blooming season can be made to extend over several weeks' time by planting at intervals. Keep the quality high in your stand by careful cultivation, plenty of moisture, planting only large bulbs, and offering for sale no inferior spikes.

## BULB VITALITY

It is a well known practice in stock breeding to see that the animals selected for breeding purposes shall rustle for their living, giving them food containing more of the muscle and body building elements and less of the fattening substances. The same thing is true with Glad bulbs. Too much fertilizing and too much watering is a real injury to the bulbs if you are raising them for the bulb crop and not for the flower. You must not pamper your growing bulb stock if you want them to produce the best flowers for the following year. Too much stem and flower growth is a harm to the bulb growth. Some growers even disbud their Glad plants, but this hardly seems necessary. Simply do not overdo the matter of plant food and watering. I never use fertilizer of any kind on my growing crop, and I have noticed that the bulbs of a dry season have the most pep for the following year. I use the good Iowa black soil containing all the natural elements, and depend on the natural rainfall, and the bulbs are clean, solid, high-crowned, and full of pep.

## ABOUT SIZES OF BULBS

The price of a bulb, as well as its value for the production of its flower, varies according to its diameter. The quality of the spikes from No. 1 and No. 2 sizes is about the same, about the only difference being that No. 1's send up more spikes. For forcing in the greenhouse No. 1 size is the best to use. No. 3 bulbs usually send up only one spike, and therefore for many varieties this size gives the finest spike, because all the energy of the plant and bulb is concentrated in the one spike. The same is true to a somewhat lesser extent for the No. 4 size. But from No. 5 and No. 6 bulbs the spikes are definitely inferior. In fact, in many varieties most growers do not get No. 6's to bloom at all. However, it is the latter two sizes that produce the main crop of bulblets, which fact gives them a definite value. Since for most varieties only a small part of the bulblets will sprout, the value of bulblets is only a fractional part of the value of the bulbs.

## THE BULB'S BEST YEAR

From a planting of bulblets the crop of bulbs at digging time will be mostly No. 5 and No. 6 sizes for nearly all varieties, although certain strong varieties will have quite a few larger sizes. This crop of bulbs, called planting stock, will develop into No. 1's and No. 2's the second season, and will have a crop of bulblets. These second year bulbs are what are called young bulbs. They are high-crowned and vigorous. It is called the bulb's best year. Although the bulb will renew itself from year to year thereafter indefinitely, yet the later bulbs are not so peppy. They are more or less flattened out, and hardly ever produce bulblets, while the spikes of blooms are not so good.

## BULBLETS

These little offshoots in among the roots of a bulb at digging time will with proper care develop into bulbs themselves, that will bloom true to the mother bulb in every particular. They are the means by which a variety is propagated, the increase being very rapid in all standard varieties.

In their wild state in their native haunts of South Africa, when the plant dies down following the blooming period, the bulblets must remain in the ground through the dormant period of several months. The bulblet kernel is small and tender, and the ground is hot and dry, and the hard husk, or shell, is therefore a protection. When the growing season again arrives, not all of these bulblets will sprout, many of them remaining over for succeeding seasons. This again is a provision of Nature for survival in case of accident to the growth above ground. These are reasons why bulblets are usually hard to germinate. We must find methods of overcoming these tendencies.

The usual practice is to soak the bulblets for several days just before planting, the longer the better. The sprout will be better still if the bulblets have not been

allowed to get too dry during storage. A good storage practice is to keep them in tight paper bags in a cool cellar. For expensive varieties it will be very profitable to break the husk just before planting, using the point of a pen knife. Be careful not to injure in the least the tender fleshy part. The husk need not be removed, the object being to allow the moisture to reach the kernel to start the growth.

Bulblets should not be planted over three or four inches deep, and must be planted early in the spring to be assured of moisture at sprouting time. It is best to plant rather thickly in the row, at least fifty or more to the foot.

## WHEN TO PLANT

Glad plants are somewhat resistant to frost, requiring several degrees below freezing to kill them. Therefore, you may plant as early in the spring as you can safely work the ground, because late frosts will do no damage. Early plantings of large bulbs will bloom before the heat of August days sets in with its blistering ravages. Another way to avoid the heat of mid-summer is to plant late, or about July 1st, for the flowers to arrive in the cool of September. Some folks plant large bulbs at intervals of about two weeks, so as to have a succession of blooms all summer. A better way to have a continuous blooming season is to plant all the different sizes at the same time early in the spring, because the blooming period of a bulb varies inversely according to its size, large bulbs first and the smallest last. You can have a continuous supply of all sizes of bulbs of a variety if you will save your bulblets and plant them with your bulbs at planting time.

Commercial growers usually wait until the weather is somewhat settled before making their more extensive plantings. Planting operations and weed control, to be effective and economical, must not be interrupted too much. For the flower markets they plant early varieties very early, and late varieties late, and others at intervals in between.

## WHERE TO PLANT

I think too much of Glads to see you planting them in borders, against buildings or fences, or in among other plants or bushes. They seem to have a hurt look in such places. You know your sweet corn would look spindly, and your tomatoes would be puny, if you tried to raise them there. Plant your Glads out in your vegetable garden, or in a place of similar location, where they can have elbow room and the free open air all around them. Glads enjoy the sunshine the whole day.

Any soil that will raise good vegetables will raise fine Glads. It must be well drained. It seems that Glads have been grown in about every conceivable climate and soil on earth, and have done well, provided the soil had a little plant food, and the season was at least a couple of months long.

## HOW TO PLANT

Much may be said in favor of planting to a depth of five or six inches. The roots stand a better chance of being kept moist and cool in the heat of the summer, and the plants are less likely to fall over at blooming time in the wind and rain. At blooming time most plants send out an expansive network of fine roots as a special set of feeders for the flowers. These roots reach towards the upper levels of the soil. Scrape the surface of the ground in a cornfield at tasseling time, and you will find myriads of them. If the bulb is planted at the six inch depth, these roots will have more room in which to expand, and a larger feeding area. The result will be a finer flower.

It is the original set of roots that grow the foliage, which in turn grows the new bulb. So those who grow for the bulb and bulblet increase do not concern themselves about the flower, and hence need not plant at the greater depths. They have another good reason for the more shallow depth in the fact that it is much more economical. The depth to use for commercial plantings depends on the nature of the soil, a loose sandy soil requiring more depth than a clay loam, for example. My field plantings are about three inches deep. Some growers claim a better bulblet increase for the more shallow plantings.

For the best flowers, do not plant closer than three or four inches apart in the row. If you plant single file, you can cultivate close up to the plants on both sides of the row. The distance between rows depends on your means of cultivating, as well as the amount of land available, and also on the amount of tramping you are likely to do between the rows along about blooming time. Large bulbs should be

set upright, but other sizes need not be. For commercial growers an even distribution of planting stock in the row, and not too thick, will result in a larger percentage of top size bulbs.

## WHY WE CULTIVATE

One reason we cultivate is in order to destroy the weeds. The best time to get the weeds is when they are small, because they quickly die when exposed to the sun, or are easily covered up, and are much less likely to take root again than they are when they are larger. Large weeds rob the soil of moisture and plant food, so do not let weeds get large in order to pull them for the exercise. Another reason we cultivate is to break the soil crust. The soil must have air for the important soil bacteria to thrive, and it must be loose and friable to prevent a too rapid escape of the soil moisture. But do not cultivate just to be cultivating, unless for the two reasons named, as it will do no good, and may do harm. At blooming time deep cultivating may do harm by destroying the fine network of feeder roots for the flowers. Cultivation at this time should be merely a scratching or raking of the surface crust.

## GETTING THE WEEDS WHILE THEY ARE YOUNG

There is a tool on the market called a garden mulcher. It resembles a lawn mower, having revolving discs, and a sharp blade that passes just beneath the surface of the soil. Weeds come up ahead of the Glads, and so I pass this mulcher over the top of the row just as the Glad shoots are about to appear, thus destroying the first crop of weeds. After the Glads are up I get most of the second crop of weeds, if the Glads are planted single file, by passing this mulcher on each side of the row and as closely as possible to the plants. The weeds that are left in the row may be torn out, or flattened out, by using a rake with long flexible teeth, and the rows then ridged up with cultivator shovels. By these means hand weeding may be almost eliminated.

## FERTILIZERS FOR GLADS

Glads are good feeders, responding nicely to intensive culture. A rich garden soil that will send mammoth vegetables to the fairs will raise fine spikes of Glads. Nothing is finer for the soil than the supplying of plenty of humus. This is done by plowing under in the fall either stable manure or a green crop, such as rye or clover.

As for the chemical fertilizers, your own particular soil needs will have to be determined. Your County Agent will do this for you. In general, the three elements, nitrogen, phosphorus, and potassium, are necessary. Nitrogen in various forms, such as ammonium sulphate, aids the growth of stem and leaves. Phosphorus, or phosphates, boosts the buds and flowers, while potassium, in the usual form of wood ashes, helps the bulb and the increase. Any good commercial potato fertilizer will have the proper proportions of these ingredients for the average soil that needs tuning up. The different manures have these elements also, and are probably the best, at least the safest fertilizers to use, as they supply the very important humus as well. The various chemicals named above must be applied with extreme caution. Overdoses will be fatal to the plants. Always follow the directions given. Most of these are quickly available to the plant, but the manures and green crops must be thoroughly incorporated in the soil by being plowed under the fall before, unless they are already well rotted.

## GROWING SHOW FLOWERS

Select young bulbs, which will be high-crowned, vigorous, clean, and peppy. Be sure no disease is present. Determine blooming dates of each variety, and then plant at three ten-day intervals, at the proper time, and one before, and one after. Even then you may miss the great day of the show, unless you plant several dozen at each planting. Plow or spade under the fall before plenty of good stable manure, or commercial sheep manure. In good soil this usually is sufficient, although an application of super-phosphate and ammonium sulphate, or some vigor, in the trench beneath the bulbs, at the rate of a pound to a hundred feet of row, will give good results. Plant at least five inches apart and six inches deep. Keep thoroughly moist at all times, but do not drown the bulbs, watering heavily once or twice a week, rather than a little at more frequent intervals. Keep the soil crust broken and the soil loose, but no deep cultivation at budding time. Stake the heavy spikes

as a protection from sudden winds. You may have more blooms open if you cut a day or so ahead of the show, and place in a cool cellar. Long spikes, with correct facing and spacing, and plenty open, and fresh blooms, are all points that win the favor of the judges.

## CAN WE AVOID CROOKED STEMS?

One well known grower decided to accept the inevitable this past show season by offering prizes in a special class for crooked spikes. But as a rule the crook in a spike is about as unwelcome as any other kind of a crook. We have all noticed that September grown spikes are straighter. This means that hot winds is the cause very probably. Experiments seem to bear this out. I have found that an efficient shield from the hot South winds is very good medicine for crookedness. Plant deep, keep moist, and erect a windbreak, and the evil is lessened. Try enclosing your little bed in a cheese-cloth tent. This lessens the glare of the sun as well as the force of the hot winds.

## DIGGING THE BULBS

When the plants begin to die down following the blooming period, the bulbs should not be left in the ground, because the fall rains harm the bulbs that are dormant. Glads may be dug at any time. Cut the stems off close to the bulbs as soon as they are lifted. The killing of the stems by frost will not harm the bulb, but the bulbs themselves are easily killed by freezing. But as long as the leaves are green the bulb is growing and setting bulblets. I remove all the soil by using a barrel churn and lots of water.

## CURING AND STORING

Do not cure in the direct sunlight. A dry place with plenty of air is all that is needed. I place my bulbs in shallow trays with screen wire bottoms directly in the storeroom to cure. Slow curing is what they are used to growing wild in Africa. Keep the storeroom dry and frost-proof. Paper bags left open are fine for smaller quantities.

About a month after digging the bulbs are ready for cleaning, as the old bulbs may then be easily removed. Separate the bulblets and place them in sealed paper bags in a moist location, but do not let them mold. Mold will also sometimes kill bulbs.

## HOW I AVOID DISEASES AND ROGUES

There will be no disease unless there is a specific germ, or spore, present in the plant. If your stock of bulbs is germ-free, you will have no disease in your bulbs. This talk of soil conditions, or storage conditions as causing disease is all nonsense. The way to free your stock of disease is to destroy utterly all infected bulbs, and treat the remainder of your bulbs with corrosive sublimate, or similar disinfectant, and plant in new ground, and then disinfect all containers, trays, and so forth. Every new bulb, or bulblet, that comes to my place is placed under a strong handglass, to find every speck of possible disease, and each speck is cut out if the bulb is valuable. As a further precaution, every bulb that is planted every year is disinfected.

Rogues are a trial and tribulation in some of the new stock that comes to my place. Very seldom do I buy bulblets when I stock up on new varieties. By getting small bulbs I can bloom and identify every new bulb, the rogues thus blooming being sent sky-high in the general direction of the dump. There was a time last summer when the air was surcharged with lightning and laden with brimstone near a bed of Picardy when one of them turned up an Alice Tiplady. If I feel that way about it, I naturally conclude that my customers will feel the same way. Hence the extreme care I use in keeping my stock true to name.

## GLAD DISEASES

There are four or five diseases affecting Glad bulbs, including the common scab disease and several different kinds of rot. Scab does not work on the bulb in storage, while the rots do. The latter will reduce the bulb to a mummy by spring.

Scab causes circular, shallow, shiny dark depressions on the surface of the bulb, which are easily removed and come clean. The bacteria spread during the growth

of the plant by swimming around while the ground is wet after rains. Badly affected plants die in the field with what is called neck rot. The bacteria live in the soil for two or three years, but do not spread in storage. Since the lesions are shallow, this disease is easily treated. Use corrosive sublimate, one ounce to about five gallons of water. Dissolve in a little hot water first. Place in bags in wooden containers, and leave several hours, preferably over night. Use for only one batch, unless you bring the solution up to strength by adding a little more corrosive sublimate. This chemical readily combines with organic matter, and quickly loses strength. It corrodes metals, and is deadly poisonous. But it is completely effective for the treatment of scab.

The only completely effective treatment for the various rots is to destroy all bulbs that have lesions of disease, no matter how small they may be. The fungus threads extend from the lesions into the heart of the bulb. Then treat the remainder of the bulbs as recommended for scab.

Some growers report that certain varieties are disease-resistant. However, if all affected bulbs are promptly destroyed, gardeners need not be unduly alarmed about Glad diseases. A little care will probably save a lot of grief later. Plant disease-free bulbs on fresh ground whenever possible. All careful growers treat all their plantings as a precautionary measure, whether they need it or not.

## THrips

Call these varmints anything else you please, but the word itself has an "s" on the end of it, whether for one thrips or many thrips. According to reports, this insect has arrived in some places in Iowa, but luckily not at my place, so that I cannot report anything from personal experience in regard to its habits and the control methods that are effective.

It seems that the injury to the plant is first noticeable as grayish-white spots, or flecks, on the foliage, often covering most of the surface. On severely injured plants the leaf tissues dry out, and turn brown, and the blooms become discolored and shriveled up.

Thrips is an insect about one-sixteenth of an inch long, rather narrow bodied, and very active in the adult stage. Most of them are able to fly. They are black in color, with a light band across the middle of their backs. They are too small to see well without a hand-glass. Except on cloudy days, they are found only inside the sheath, where they lay their eggs. They feed by rasping the tender leaf surface and sucking up the juices. They multiply very rapidly.

In those localities where the ground freezes to a depth of several inches they do not live over the winter out of doors. They live over the winter on the bulbs in storage, and even multiply there if the temperature is moderate. If the storage temperature is kept at forty degrees, or lower, they are destroyed, according to some reports. If the bulbs are placed in containers, such as paper bags, thrips may also be destroyed completely by the use of naphthalene flakes, which are cheap, and obtainable at any drug store. They form a gas that kills both bugs and eggs. Use about an ounce to a hundred large bulbs and shake the bag so that the flakes are scattered throughout the bulbs. They may be left in the bags for several weeks without danger, but be sure the containers are not kept tight too long, so that the bulbs sweat and mold. It is best not to do this too soon after being dug, or when the roots are beginning to burst in the spring, as the tender bulb tissue might be damaged. At planting time, as an additional precaution, the same corrosive sublimate treatment as recommended for diseases is effective. Destroy all trash and refuse from cleaning and be sure that treated bulbs do not again become infested from such sources before planting. Since thrips fly, get your neighbors to use these precautions also. For larger quantities of bulbs in storage, fumigation with calcium cyanide is effective, but this is one of the most deadly poisons known, and must be used with extreme caution.

Thrips is a dry weather insect. Cool, rainy weather holds them in check. Frequent sprinklings of cool water is the best control method in the growing season. But this must be started in plenty of time, because thrips live inside the sheath of the plant leaf, and may be present before you know it. If they have a good start, it is very hard to control them by any methods so far known. A contact spray is almost useless. Some growers have had some success by spraying with a solution of brown sugar and paris green, using considerable force on both sides of the plant. The formula for this is two tablespoons of paris green, two pounds of brown sugar, and three gallons of water.

## SOME INSECT ENEMIES

There are very few insect pests that have a taste for Glads. Most bugs make a meal off of Glads only when other sources of foods are scarce. The damage from these is only incidental. Included in this group of pests is the cow and the bunny. The bunny does the lesser damage because when the tender Glad shoots are cut off others will come up, while the cow usually pulls them up by the roots.

**Black Aster-beetle.** This bug is a half-inch long, the most common variety of a uniform black color, not very active but can fly, usually drops to the ground when disturbed, and plays 'possum'. It feeds on the flowers of all plants in late summer. An effective remedy is a poison spray, such as arsenate of lead, on the open blooms, if you wish to save the remaining crop of spikes. No harm is ever done to leaf or bulb.

**Wireworm.** A slender, orange colored, smooth worm about an inch long. It bores a hole to the heart of the young plant just above the bulb, completely destroying it. It infests old meadows and pastures. The only practical remedy is to grow your Glads on ground that has had a cultivated crop the past year or two.

**White grub.** These are the larvae of the June-bug, or May-beetle, white, and about the size of a moth-ball. They feed on the husk of the bulb and also the roots. There is no effective remedy except to let a drove of hogs without rings in their noses have free play in your field the season before you wish to plant there. Sod ground seems to contain more grubs than a field that has been under cultivation.

**Borers.** Sometimes, but very rarely, the European Corn Borer larva will burrow in the stem of the Glad. Also the common stalk-borer, or Corn-Ear Worm. The only way to combat these borers is to burn all trash, a pretty good practice for all insects and diseases.

**Cutworm.** The nocturnal larva of the owlet moth sometimes cuts off the young Glads at the surface of the ground, or just beneath it. There is no particular damage, as the Glad comes on again, and as the season advances these worms cease their activities.

**Grasshoppers.** A real plague out here in the West sometimes. Your Glads next to a meadow or a grain field or a right of way will be mowed off clear to the ground if you do not feed the hoppers generously with poisoned bran at frequent intervals.

## THE PASSING OF THE OLD TIMERS

The trade reports of the past season from the various flower markets, while emphasizing the fact that Glads are the stand-bys, quite frequently commented on the high quality of the Glads that came to market, in spite of a rather difficult season. This increasingly high quality of the cut Glads in these markets is due to the greater proportions of the newer and finer varieties. With the advent of the newer kinds in increasing quantities, there is no room left for the older varieties. The restricted demand of the depression has also helped to crowd them out never to return. Buyers of Glad blooms are seeking better and better quality, and are willing to pay for it. The Halleys, Kings, and Shaylors are gradually giving way to the Phipps, Bennetts, and Nuthalls, and the grower who clings to the older kinds is finding himself a has-been.

## DO GLADS CHANGE COLOR?

This question is often asked. Most decidedly no. The bulblets around the roots develop into bulbs whose blooms remain true in color to the mother bulb year after year indefinitely. The occasional sport is an exception, but these sports are so extremely rare, that they would never turn up in one garden out a hundred. What causes this confusion is the fact that some varieties are much stronger and more prolific than others, and it is these that in time crowd the others out, and your plot of Glads in a few years will become all of one or two kinds.

## DO VARIETIES CHANGE?

Of course, varieties differ in their ability to resist hot and dry conditions. The change is so marked in many cases that one is put to it to recognize the varieties, even though there is a general resemblance. But as soon as moisture and coolness are restored they return to their original glory. Bulbs grown under hard conditions do specially well in a gentle climate.

Then we have the case of the sport, which is a complete mutation of some feature, usually color. In these there remains a close resemblance in all other features except the one that is changed. The form, markings, and habits of growth are retained in the color sport. But the sport is very rare indeed. Last year there were none in all my plantings.

But aside from this, Glads do have more or less of what might be called unstableness. We have all felt that certain varieties are not what they once were, and this feeling is not entirely due to the superior new varieties, either. This deterioration, as we might call it, is noticeable in seedlings. A seedling may appear to be a world beater the first year or so, but after that a disappointment. This is one of the sorrows of the hybridizer. Those seedlings that remain good are rather scarce. However, it is from this limited class that we get our standard Glads. Varieties such as Bennett, Phipps, and Minuet, and a handfull of others, have not perceptibly changed through the years. But on the other hand, one cannot say as much for Le Marechal Foch, for example, and a host of others that might be named, no matter what the conditions under which they may be raised. Deterioration in color is not so marked as in other qualities, such as length of stem and size of blooms. Some originally fine Glads have almost degenerated into Cannas as far as the spike is concerned. Others have eliminated themselves by gradually losing their ability to reproduce themselves.

The consistent winners at the numerous shows all over the land are remarkably few in number, when we consider the thousands of introductions. It is these that have been reliable through the years, and have retained their stamina and consistent performance under all sorts of conditions of climate and soil. It is these that we call standard Glads.

## ORIGINATING NEW VARIETIES

Happily this is something that can be done in any back yard with the expenditure of a little time and patience. The list of originators who rose to fame on a single variety is a long one. It can confidently be predicted that a goodly share of the future super-Glads will have first bloomed in some Glad fan's back yard.

In general, we will find, as in any other line of breeding, that like breeds like. If you want a yellow, cross two yellows, and if you want a blue, cross two blues. If you want many open, cross two of this kind, and if you want good keeping qualities, cross two good keepers. As in any other line of breeding, we will find quite often a variety that is what is called "dominant", which means that a certain color or a certain quality it possesses is almost certain to occur in all of its progeny. For example, Jane Addams is almost sure to transmit that white blotch. Bad traits of the parents are the most likely to be transmitted it seems. But if we get a large quantity of seedlings from the same cross, the chances are that among the whole lot there may be one or two that inherit the good qualities of both parents without their bad qualities. It is worth trying at least.

Varieties greatly differ in their value as parents. Some, like Betty Nuthall and Veilchenblau, seem to be worthless for this purpose, while others, like Marmora, Emile Aubrun, Minuet, and Phipps, make very good parents. But I have found that the older a variety is the less value it has for crossing. The first few years in the life of a new variety seem to be the most potent in the production of fine things. This is why the originators of famous varieties have never been able to repeat their wonderful creations. The originator who confines his crossings to his own seedlings while new, and to the best of other new originations, will advance the most rapidly, while the originator who keeps on repeating the same old crosses he had such good luck with in the past will find himself trailing in the race for finer and finer things.

Do not be satisfied with just one pod or two of each cross. Get as many as possible. The greater the number of these strikingly similar seedlings in any certain cross, the wider the range of the values obtained. No two of a cross are ever exactly alike in color, and they differ also in quality. The more there are the greater your chances of finding something really fine. Keep a record of every cross you make. Not one cross in a dozen ever amounts to anything, and you want to know which crosses are likely to produce things worth while, that you may repeat them on a larger scale perhaps.

It is very unlikely that an inferior variety will ever produce worth-while results. As in animals the best individuals are used for breeding purposes, so in Glads only those varieties that are good enough to be named and introduced into commerce will be worth while as parents for the new Glads of the future. Therefore, any back-yard

Glad fan has as good chances of producing fine things as the specialist, because the best material for this purpose is accessible to all.

## GLAD SEEDLINGS

I have the best luck getting the seed to set along the latter part of August and the first week in September. The summer sun seems to burn the pollen. In the heart of the flower you will find a pistil with three branches on the end. The other three stems with anthers on their tips are the stamens. The anthers contain the pollen. Just as soon as these anthers are shedding the tiny pollen grains, usually about the middle of the forenoon, take the whole stamen from the pollen parent either with your fingers or a small forceps, and rub the pollen surface on the branches of the pistil of the seed parent. This operation may be repeated the following day on the same flower. Use only the lower half of the spike for best results. The spikes of the pollen parent may be cut and bloomed indoors to protect the pollen from the wind and insects. The blooms need not be covered. Chance pollinations by the wind and bumble bees is not extensive enough to interfere greatly. It takes about three weeks for the pods to develop and ripen, and they should be gathered before they get too ripe and burst.

Plant the seed rather thickly early in the spring in shallow trenches in good rich soil. It takes them about three weeks to sprout, and they should be kept thoroughly moist. Keep them covered with lath frames to protect them from the sun, as the tender blades are easily burned off. When they are dug in the late fall, they are about a half inch in diameter, maybe larger. They grow rapidly the following year if planted in rich soil and kept well watered, most of them blooming. Save for a second year's trial all that show promise. One of the disappointments connected with this game of originating new Glads is the fact that most of these seedlings that show much promise the first year or two will deteriorate more or less rapidly thereafter. A few, and it is a very few, will maintain their original fine qualities indefinitely, while one in perhaps ten thousand will even improve on its initial appearance.

## THE KICK IN HYBRIDIZING

Most of us lead a sort of humdrum existence, with the same old rounds of the same old duties in the same old ruts. Very rare is the privilege afforded us of adventuring into the realms of discovery and invention. Extremely rapid progress is just now being made in the improvement of the Glad, and far better varieties are confidently expected in the future. The Glad world is eagerly awaiting a good big yellow, for example, or a true blue, or a real orange, or a pink that is pink. Here is a chance to contribute something real to progress. This chance may not be big, but in that case the hunt is all the more keen on the trail.

If one has a bed of a few hundred seedlings, no two alike, blooming for the first time, there is no keener delight than to watch their unfolding, to go out each morning, long before breakfast, to see what has bloomed during the night. There might be a world beater out there some fine morning.

## THE HISTORY OF GLADS

The Glad is a newcomer among cultivated plants. Although there are a few species native to Southern Europe and Asia Minor, they never attracted any special attention. But it was when the bright colored and varied species of South Africa were discovered about a hundred years ago that a great impetus was given to Gladiolus improvement. A member of the Iris family, the genus Gladiolus contains about one hundred and fifty species, all but fifteen of them native to South Africa. The first specimens were brought from the Cape of Good Hope near the beginning of the 19th Century. A few of the more promising species were crossed, and several resulting strains developed, the most prominent being the "gandevensis" strain. The most famous variety of the latter strain was the old red and yellow Brenchleyensis. Many breeders of England, France, and Germany, as well as America, have been constantly on the job since then seeking newer and finer Glads.

There are several distinct modern strains, though all Glads are more or less related. The Primulinus (often shortened to Prim) strain was the result of crossing on the large-flowered kinds a recently discovered species called Primulinus, a pure yellow, small, hooded Glad. The hybrids have slender, graceful stems, with small blooms, nearly all having the upper petal hooded down over the face of the flower. A French strain was developed by Lemoine, having a pronounced blotch. The violets

and blues were developed in Germany. The Australian type is many flowered, but are a little hard to get used to our climate.

## THE SEASON'S BEST TWENTY-FIVE

The following were the best in my garden this year, not counting seedlings. Mr. W. H. Phipps, Minuet, Dr. F. E. Bennett, Betty Nuthall, Mammoth White, Golden Dream, Pelegrina, Marmora, Commander Koehl, Albatros, Picardy, Veilchenblau, Jane Addams, Crinkles, Mrs. F. C. Peters, Paul Pfitzer, Charles Dickens, Mrs. P. W. Sisson, Ruffled Gold, Orange Wonder, Salbach's Orchid, Mother Machree, Geraldine Farrar, Red Glory, and Berty Snow.

## QUALITIES OF THE IDEAL

Color is the first consideration. It is in a category by itself. All these qualities of plant and flower exist for the sole purpose of furnishing the proper setting for the color beauty. They are the means to an end, which is the presenting of the color beauty to the best advantage.

The three big things a modern Glad must have are color beauty, many open, and lasting ability. All other qualities are centered around these three essential points. Very few Glads measure up to all of the following ideals.

- (1) Prolific and easy growing.
- (2) Healthy, heavy foliage.
- (3) Responds to intensive culture.
- (4) Not affected seriously by conditions of drouth.
- (5) Will not wilt nor burn in the summer heat.
- (6) Stems do not crook.
- (7) Tall stretchy spike reaching up out of well bunched foliage.
- (8) Florets well opened and of fine form.
- (9) Stiff, sturdy and wiry, but graceful, stem.
- (10) Florets regularly faced and spaced on the spike.
- (11) Bulb does not divide into more than one or two spikes.
- (12) Five to eight florets open, and as many more showing color.
- (13) Plenty of size and harmonious proportions in petal, flower, and spike.
- (14) At least twenty buds to the spike.
- (15) Blooms out when cut clear to the tip without loss in size and color.
- (16) Plenty of substance to withstand the necessary handling.
- (17) Does not fade nor streak nor fleck.
- (18) The wilted blooms do not detract.
- (19) Colors uniform, vivid and clear.
- (20) Colors bright under artificial light.
- (21) Possesses that indefinable something called charm.

## REGAL LILY

This fine lily was discovered in Western China a few years ago. Four to five feet high, with a dozen, or more, big white blooms, tinted pink and yellow, on each stalk. Probably the most popular of all lilies because so easily grown. It is perfectly hardy. Blooms the last of June or the first of July. Lay bulbs on side about 8 inches deep in a well drained place. Large bulbs ready for the finest bloom, 15c each, \$1.50 per dozen. Seed, 25c an ounce.



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